

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Molisch et al.

Title: RF SIGNAL PROCESSING IN MULTI-ANTENNA SYSTEMS

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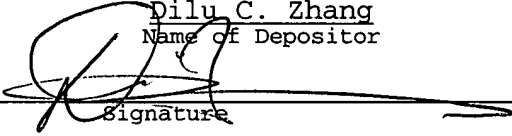
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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
PO Box 1450  
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Pursuant to 37 C.F.R. §1.56(a), Applicant hereby cites the following documents (copies enclosed) listed on the attached copy of Form PTO-1449.

This Information Disclosure Statement is filed in accordance with the paragraph of 37 CFR §1.97 checked below:

X 1.97(b) This Information Disclosure Statement is filed:

- (1) Within three months of the filing date of a national application; OR
- (2) Within three months of the date of entry of the national stage of an international application; OR
- (3) Before the mailing of a first Office Action on the merits.

No fee or certification is required.

   1.97(c) This Information Disclosure Statement is filed after the period specified in paragraph (b) above, but before the mailing date of either:

- (1) A Final Action under 37 CFR 1.113; OR
- (2) A Notice of Allowance under 37 CFR 1.311;

AND is accompanied by either:  
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\_\_\_\_\_ the Certification under 37 CFR  
1.97(e) as set out below; OR

\_\_\_\_\_ the fee of \$240.00 under 37 CFR  
1.17(p).

\_\_\_ 1.97(d) This Information Disclosure Statement is filed  
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- (1) a Final action under 37 CFR 1.113; OR
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BUT before payment of the Issue Fee, AND is accompanied  
by:

- (1) the Certification under 37 CFR 1.97(e) as  
set out below; AND
- (2) Petition is hereby made under 37 CFR  
1.97(d) for consideration of this  
Information Disclosure Statement; AND,
- (3) Authorization to charge the petition fee  
of \$130.00 as set out in 37 CFR 1.17(i).

If this Information Disclosure Statement is being filed  
under 37 CFR 1.97(c) or 1.97(d), the undersigned Attorney hereby

certifies that:

— each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing date of this Statement;

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— no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, or to the knowledge of the undersigned Attorney after making reasonable enquiry, was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing date of this Statement.

MERL-1478

Authorization is hereby given to charge the indicated fee(s) to Deposit Account No. 50-0749.

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Respectfully submitted,

MITSUBISHI ELECTRIC RESEARCH LABORATORIES

By:



Andrew J. Curtin  
Reg. No. 48,485  
Attorney for Assignee

Mitsubishi Electric Research Laboratories, Inc.  
201 Broadway  
Cambridge, Massachusetts 02139  
(617) 621-7539

Customer No. 022199

Enclosures

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Form PTO-1449 (modified 2/91)	U.S. DEPT OF COMMERCE Patent and Trademark Office	Attorney Docket Number: <b>MERL-1478</b>	Serial Number:
<b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)		Applicant: <b>Molisch et al.</b>	
		Filing date: <b>Herewith</b>	Group art area:

## U.S. PATENT DOCUMENTS

Examiner Initial	Patent number	Date	Name	Class	Subclass	Filing date if appropriate

## FOREIGN PATENT DOCUMENTS

	Document number	Date	Country	Class	Subclass	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Telatar et al., "Capacity of Multi-Antenna Gaussian Channels," <i>European Trans. on Telecomm.</i> , Vol. 10, No. 6, pp. 585-596, November-December 1999
	Tarokh et al., "Space-Time Codes for High Data Rate Wireless Communication: Performance Criterion and Code Construction," <i>IEEE Trans. Inform. Theory</i> , Vol. 44, pp. 744-765, March 1999
	Molisch et al., "Capacity of MIMO Systems with Antenna Selection," <i>Proc. IEEE Intl. Comm. Conf.</i> , pp. 570-574, 2001
	Shiu et al., "Fading Correlation and Its Effect on the Capacity of Multi-element Antenna Systems," <i>IEEE Trans. Commun.</i> , Col. 48, pp. 502-513, March 2000
	Tse et al., "Capacity Scaling in Dual-Antenna-Array Wireless Systems", <i>IEEE Trans. Inf. Theory</i> , June 2000, submitted
Examiner:	Date Considered:
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP .609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.	